

**AMENDMENTS TO THE CLAIMS:**

1-17. (canceled)

18. (withdrawn) An isolated nucleic acid molecule encoding an estrogen receptor  $\beta$  peptide, wherein the nucleic acid molecule comprises at least 20 contiguous nucleotides of SEQ ID NO:1, and wherein the 20 contiguous nucleotides include position 89837 of SEQ ID NO:1, and wherein position 89837 of SEQ ID NO:1 is 'T' instead of 'C'.

19. (withdrawn) An isolated nucleic acid molecule encoding an estrogen receptor  $\beta$  peptide, wherein the nucleic acid molecule comprises at least 30 contiguous nucleotides of SEQ ID NO:1, and wherein the 30 contiguous nucleotides include position 89837 of SEQ ID NO:1, and wherein position 89837 of SEQ ID NO:1 is 'T' instead of 'C'.

20. (previously presented) An isolated nucleic acid molecule comprising SEQ ID NO:1, wherein position 89837 of SEQ ID NO:1 is 'T' instead of 'C'.

21. (currently amended) An isolated nucleic acid molecule encoding a polypeptide having an estrogen receptor  $\beta$  function peptide, wherein the nucleotide sequence of said nucleic acid molecule consists of a segment of SEQ ID NO:1, and wherein said segment comprises positions 89803-89988 of SEQ ID NO:1, and further wherein position 89837 of SEQ ID NO:1 is 'T' instead of 'C'.

22. (withdrawn) The isolated nucleic acid molecule of claim 20, wherein the nucleic acid molecule comprises positions 153994-154500 of SEQ ID NO: 1 and said alteration is G at position 154202.

23. (withdrawn) The isolated nucleic acid molecule of claim 20, wherein the nucleic acid molecule comprises positions 153994-154500 of SEQ ID NO: 1 and said alteration is A at position 154431.

24. (withdrawn) The isolated nucleic acid molecule of claim 20, wherein the nucleic acid molecule comprises positions 159915-160827 of SEQ ID NO: 1 and said alteration is G at position 160052.

25. (withdrawn) The isolated nucleic acid molecule of claim 20, wherein the nucleic acid molecule comprises T at position 89837, G at position 154202, A at position 154431, and G at position 160052.

26. (previously presented) A nucleic acid probe that is complementary over the entire length of said probe to a segment of SEQ ID NO:1 that includes position 89837 of SEQ ID NO:1, wherein position 89837 of SEQ ID NO:1 is 'T' instead of 'C', such that the probe hybridizes under high stringency conditions to a nucleic acid molecule comprising said segment of SEQ ID NO:1 but does not hybridize to a nucleic acid molecule comprising said segment of SEQ ID NO:1 having a 'C' at position 89837, wherein said high stringency conditions are hybridization in 6X sodium chloride/sodium citrate (SSC) at about 45 °C, followed by one or more washes in 0.2 X SSC, 0.1% SDS at 50-65 °C.

27. (canceled)

28. (withdrawn) The probe of claim 27, wherein the probe hybridizes under high stringency conditions to a polynucleotide comprising SEQ ID NO:1 having T at position 89837 but not to a polynucleotide comprising SEQ ID NO:1 having C at position 89837.

29. (withdrawn) The probe of claim 27, where in the probe hybridizes under high stringency conditions to a polynucleotide comprising SEQ ID NO:1 having G at position 154202 but not to a polynucleotide comprising SEQ ID NO:1 having A at position 154202.

30. (withdrawn) The probe of claim 27, wherein the probe hybridizes under high stringency conditions to a polynucleotide comprising SEQ ID NO:1 having A at position 154431 but not to a polynucleotide comprising SEQ ID NO:1 having G at positions 154431.

31. (withdrawn) The probe of claim 27, wherein the probe hybridizes under high stringency conditions to a polynucleotide comprising SEQ ID NO:1 having G at position 160052 but not to a polynucleotide comprising SEQ ID NO:1 having A at position 160052.

32. (previously presented) The probe of claim 26, wherein the probe is detectably labeled.

33. (withdrawn) A method for diagnosing a mutation in a breast cancer patient comprising hybridizing a probe of claim 27 to a patient's sample of DNA or RNA, the presence of a hybridization signal being indicative of breast cancer.

34. (withdrawn) A method according to claim 33 wherein the patient is European decent.

35. (withdrawn) A method according to claim 34 wherein the patient's DNA or RNA has been amplified and said amplified DNA or RNA is hybridized with a probe of claim 27.

36. (withdrawn) A method according to claim 34 wherein said hybridization is performed in situ.

37. (withdrawn) An isolated nucleic acid molecule that is entirely complementary to the nucleic acid molecule of claim 18.

38. (withdrawn) An isolated nucleic acid molecule that is entirely complementary to the nucleic acid molecule of claim 19.

39. (previously presented) An isolated nucleic acid molecule that is entirely complementary to the nucleic acid molecule of claim 20.

40. (previously presented) An isolated nucleic acid molecule that is entirely complementary to the nucleic acid molecule of claim 21.